

**Amendments to the Claims:**

The following listing of claims replaces all prior versions, and listings, of claims in the present application.

**Listing of the Claims:**

1.( *previously presented*) A method of operating a packet data transmission system having a primary station (PS 1) having a plurality of antennas (PA1 – PA4) and at least one secondary station (SS1) having a plurality of antennas (SA1 – SA4); the method comprising the primary station (PS1) transmitting packet data on signal paths between pairs of primary and secondary station antennas, the secondary station (SS1) monitoring its radio environment and sending information about its radio environment to the primary station, the primary station (PS1) in response to this information adapting itself and informing the secondary station (SS1) regarding the type of adaptation made; and the secondary station (SS1) configuring its receiver resources (RX1 – RX4) for processing the received data and interference by using some of the receiver resources designed to receive transmissions for the purpose of interference cancellation and by choosing selected ones of said plurality of its antennas (SA1-SA4).

2.(*original*) A method as claimed in claim 1, characterised in that the secondary station (SS1) recommends to the primary station (PS 1) how it should adapt itself.

3.(*original*) A method as claimed in claim 2, characterised in that the secondary station (SS1) recommends that the primary station (PS 1) use a particular subset of antennas for transmitting packet data.

4.(*original*) A method as claimed in claim 2 or 3, characterised in that the secondary station (SS 1) recommends the maximum desired number of receivable transmission antennas to be used by the primary station (PS 1).

5.(*previously presented*) A method as claimed in claim 2 or 3, characterised in that the secondary station (SS 1) recommends the transmission format to be used by the primary station (PS1).

6.*(previously presented)* A method as claimed in claim 2 or 3, characterised in that the primary station (PS1) adapts itself as recommended by the secondary station (SS1).

7.*(previously presented)* A method as claimed in claim 1, 2 or 3, characterised in that the secondary station (SS1) determines the resources to be used for receiving packet data and the resources to be used for interference suppression.

8.*(previously presented)* A method as claimed in claim 1, 2 or 3, characterised in that the secondary station (SS1) monitors the transfer function of the paths between the primary and secondary stations antennas (PA1 – PA4, SA1 – SA4).

9.*(previously presented)* A method as claimed in claim 1, 2 or 3, characterised in that the information about the radio environment of the secondary station (SS1) includes characteristics of the interference present at one or more antennas (SA1-SA4) of the secondary station (SS1).

10.*(previously presented)* A packet data transmission system comprising:  
a primary station (PS1) having a plurality of antennas (PA1 – PA4), signal transmitting (TX1 – TX4) and receiving means (16) and means for adapting itself in response to a received signal from a secondary station (SS1) and means for informing the secondary station (SS1) regarding the type of adaptation made, and at least one secondary station (SS1) having signal transmitting and receiving means (RX1 – RX4), a plurality of antennas (SA1 – SA4), means (18) for monitoring its radio environment and for transmitting a signal including information about its radio environment, and means (18) for configuring its receiver resources (RX1 – RX4) for processing data signals received from the adapted primary station (PS1) and interference by using some of the receiver resources designed to receive transmissions for the purpose of interference cancellation and by choosing selected ones of said plurality of its antennas (SA1-SA4).

11. *(original)* A system as claimed in claim 9, characterised in that the monitoring means (18) comprises means (18) for determining the transfer functions of the radio paths between the primary station and secondary stations.

12. *(previously presented)* A secondary station (SS1) for use in a packet data transmission system comprising:

a primary station (PS1) having a plurality of antennas (PA1 – PA4) and signal transmitting (TX1 – TX4) and receiving means, the secondary station (SS1) having signal transmitting and receiving (RX1 – RX4) means, a plurality of antennas (SA1 – SA4) and means (18) for monitoring its radio environment and for transmitting a signal including information about its radio environment, means for receiving information regarding the type of adaptation made by the primary station (PS1); and means (18) for configuring its receiver resources (RX1 – RX4) for processing received data signals and interference by using some of the receiver resources designed to receive transmissions for the purpose of interference cancellation and by choosing selected ones of said plurality of its antennas (SA1-SA4).

13.     *(canceled)*